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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/559,643

12/02/2005

Jill MacDonald Boyce

PU040104

7307

24498 7590 06/04/2010
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EXAMINER

THOMPSON, JAMES A

ART UNIT

PAPER NUMBER

2625

MAIL DATE

DELIVERY MODE

06/04/2010

PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No. 10/559,643	Applicant(s) BOYCE ET AL.	
	Examiner James A. Thompson	Art Unit 2625	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 1 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 02 December 2005.
- 2a) ☐ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-12 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☐ Claim(s) _____ is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☒ Claim(s) 1-12 are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|---|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Election/Restrictions

Restriction to one of the following inventions is required under 35 U.S.C. 121:

- I. Claims 1 and 2, drawn to video decoding which receives the compressed stream data and separates the normal stream and the channel change stream, selectably receives at least one of the compressed normal and channel change streams, provides decompressed video output, stores reference pictures for the normal frame decoding portion, receives a compressed channel change stream, stores reference pictures for the lower-resolution decoding portion, and upsamples decompressed video data and selectably outputs said data to at least one of the at least one normal frame store and a display.
- II. Claims 1 and 3, drawn to video decoding which receives the compressed stream data and separates the normal stream and the channel change stream, selectably receives at least one of the compressed normal and channel change streams, provides decompressed video output, stores reference pictures for the normal frame decoding portion, post-processes decompressed video data, and selectably outputs said data to at least one of the at least one normal frame store and a display.
- III. Claims 1 and 4, drawn to video decoding which receives the compressed stream data and separates the normal stream and the channel change stream, selectably receives at least one of the compressed normal and channel change streams,

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provides decompressed video output, stores reference pictures for the normal frame decoding portion, and selects a compressed picture to decode from one of a normal stream and a channel change stream.

- IV. Claims 1 and 5, drawn to video decoding which receives the compressed stream data and separates the normal stream and the channel change stream, selectably receives at least one of the compressed normal and channel change streams, provides decompressed video output, stores reference pictures for the normal frame decoding portion, and upsamples lower resolution channel change stream pictures.
- V. Claims 1 and 6, drawn to video decoding which receives the compressed stream data and separates the normal stream and the channel change stream, selectably receives at least one of the compressed normal and channel change streams, provides decompressed video output, stores reference pictures for the normal frame decoding portion, and decodes redundant picture syntax in compliance with the ITU-T H.264 standard.
- VI. Claims 1 and 7, drawn to video decoding which receives the compressed stream data and separates the normal stream and the channel change stream, selectably receives at least one of the compressed normal and channel change streams, provides decompressed video output, stores reference pictures for the normal frame decoding portion, and decodes channel change pictures from user data of corresponding normal stream pictures.

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- VII. Claims 1 and 8, drawn to video decoding which receives the compressed stream data and separates the normal stream and the channel change stream, selectably receives at least one of the compressed normal and channel change streams, provides decompressed video output, stores reference pictures for the normal frame decoding portion, and responds to a signal from an encoder indicating whether to use normal stream or channel change stream pictures for subsequent channel change stream intra-coded pictures.
- VIII. Claims 1 and 9, drawn to video decoding which receives the compressed stream data and separates the normal stream and the channel change stream, selectably receives at least one of the compressed normal and channel change streams, provides decompressed video output, stores reference pictures for the normal frame decoding portion, and post-processes the output of the normal decoder to reduce the abruptness of a transition from lower-quality to normal quality output.
- IX. Claims 10 and 11, drawn to video decoding which receives the compressed stream data and separates the normal stream and the channel change stream, receives at least one of the compressed normal and channel change streams, provides decompressed video output, stores reference pictures for use in decoding inter-coded pictures, selects a compressed picture to decode from one of a normal stream and a channel change stream, upsamples lower resolution channel change stream pictures, decodes redundant picture syntax in compliance with the JVT standard, decodes channel change pictures from user data of corresponding normal stream pictures, responds to a signal from an encoder indicating whether

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to use normal stream or channel change stream pictures for subsequent channel change stream intra-coded pictures, and post-processing the output of the normal decoder to reduce the abruptness of a transition from a lower-quality to normal quality output.

- X. Claim 12, drawn to a compressed digital video signal comprising a first plurality of block transform coefficients corresponding to a normal video quality stream, and a second plurality of block transform coefficients corresponding to a channel change stream.

The inventions are distinct, each from the other because of the following reasons:

Inventions I-IX are related as combination and subcombination. Inventions in this relationship are distinct if it can be shown that (1) the combination as claimed does not require the particulars of the subcombination as claimed for patentability, and (2) that the subcombination has utility by itself or in other combinations (MPEP § 806.05(c)). In the instant case, the combination as claimed does not require the particulars of the subcombination as claimed because the inventions are drawn to distinct and separate aspects of the disclosed video encoding. The subcombinations have separate utility such as different types of storing, sampling and/or decoding.

The examiner has required restriction between combination and subcombination inventions. Where applicant elects a subcombination, and claims thereto are subsequently found allowable, any claim(s) depending from or otherwise requiring all the limitations of the allowable subcombination will be examined for patentability in accordance with 37 CFR 1.104.

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See MPEP § 821.04(a). Applicant is advised that if any claim presented in a continuation or divisional application is anticipated by, or includes all the limitations of, a claim that is allowable in the present application, such claim may be subject to provisional statutory and/or nonstatutory double patenting rejections over the claims of the instant application.

Inventions I-IX and X are unrelated. Inventions are unrelated if it can be shown that they are not disclosed as capable of use together and they have different designs, modes of operation, and effects (MPEP § 802.01 and § 806.06). In the instant case, the different inventions are directed to various storing, sampling and/or decoding apparatuses and method versus a data stream of various block transform coefficients.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to James A. Thompson whose telephone number is (571)272-7441. The examiner can normally be reached on 8:30AM-5:00PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Edward L. Coles can be reached on 571-272-7402. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/James A Thompson/
Primary Examiner, Art Unit 2625

03 June 2010